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THE OZARK OBSERVER

NATIONAL WEATHER SERVICE
SPRINGFIELD MO

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By Steve Runnels

As we leave the spring tornado season behind, and severe thunderstorms diminish with the approach of summer, a different set of weather threats rule the Ozarks. Lightning and flooding threats increase during the summer months, and the overall number one weather killer...dangerous summer heat...begins!

The National Weather Service, the Missouri Department of Health and Senior Services, and the State Emergency Management Agency have joined together to promote Missouri Summer Weather Safety Week from June 21 - 27, 2009. This coincides with the National Lightning Safety Awareness Week. Please join the NWS and our partners by sharing the following information, as well as the information

Summer Weather Safety Week June 22-28



found at www.lightning.safety.noaa.gov

Lightning: When Thunder Roars, Go Indoors!

While lightning fails to gain the headlines of tornadoes, it is statistically more deadly. Over the last 30 years, an average of 62 Americans annually lose their life to lightning. In 2008, 28 people died across the United States due to lightning strikes and hundreds of others were permanently injured. Of the victims who were killed by lightning in 2008:

- * 100% were outdoors
- * 79% were male
- * 32% were under a tree
- * 29% were on or near the water

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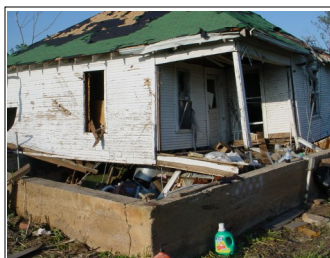
DERECHO!!! WINDS ROAR ON MAY 8, 2009

By Brian Barjenbruch

For many across the Ozarks region, the morning of May 8, 2009 greeted them with all of the fury and intensity that mother nature could find. Winds of 70 to 90 mph pelted houses with heavy rain and flying debris. Hail larger than golfballs dented cars while rain fell at up to three inches per hour, closing numerous roads including Interstate 44 at one location. 20 tornadoes, up to

EF-3 in strength, touched down over portions of southwestern and south central Missouri.

All of this occurred in a matter of only a few hours as a powerful line of thunderstorms raced across the Ozarks between 7 and 11 AM. A line of thunderstorms which such intense windspeeds as these is

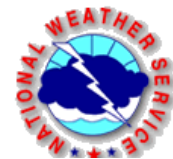


A home is pushed off its foundation by one of several tornadoes that occurred on May 8.

known as a derecho. In addition to strong winds, the storm system lasted for several hours, beginning as a few thunderstorms over Kansas, and ending up more than a thousand miles off to the east. One reason that the storms lasted so long was that they developed their own very powerful area of low pressure immediately in their wake. This acted to increase the forward speed of the storm system,

and produced extremely strong winds to more than 80 mph well behind the main convective line of thunderstorms.

Storm damage was extensive with this system. A large area of southeastern Kansas and the Missouri Ozarks experienced the most Cont. on Page 3



SEVERE WEATHER AWARENESS AT THE MALL A SUCCESS

By Kelsey Angle

The Springfield National Weather Service Forecast Office in coordination with several partner organizations hosted a Severe Weather Awareness Day at Battlefield Mall on March 14, 2009. Nearly 60,000 shoppers were exposed to severe weather awareness and preparedness information to mitigate the hazards of severe thunderstorms, tornadoes, flash flooding and lightning.

"Now is the time to plan and prepare for the impacts of severe weather. It's not a matter if severe weather will occur; it's a matter of when," said Steve Runnels, Warning Coordination Meteorologist. To help the public plan and prepare for the upcoming severe weather season, organizations offered a variety of educational information and interactive booths. Na-

tional Weather Service meteorologists conducted severe weather safety presentations and discussed the dangers of tornadoes via a tornado simulator and booth. American Red Cross provided life saving medical information and sold NOAA Weather Radios. Greene County Emergency Management discussed the Home-town Ready and Community Emergency Response Team programs. Amateur Radio Operators demonstrated the importance of communication during severe weather and disaster recovery efforts. KTTS 94.7 FM distributed Storm Alert Maps and interviewed NWS meteorologists. KOLR 10-TV and KSFX-TV conducted a Kidcast contest where kids were recorded presenting a weather forecast and featured on a morning newscast. Battlefield Mall hosted the



Warning Coordination Meteorologist Steve Runnels discusses severe weather safety at the mall.

Kidgits Kids Club and a weather coloring contest. "The fostering of partnerships integrated with the visibility of mall traffic led to a successful event with thousands going home with life saving information," said Kelsey Angle, Meteorologist.

NWS INSTALLS FLOOD AWARENESS SIGNS

By Kelsey Angle and Andy Foster

The Springfield National Weather Service Forecast Office recently partnered with Webster County to install "When Flooded Turn Around Don't Drown" signage on both sides of a high impact low water crossing near Interstate 44. The signs were installed as a result of a Flash Flood Risk Analysis program at the forecast office. Flash flooding from heavy rainfall is a frequent occurrence at the low water crossing along Greenwood Road. The dangers of flooding are increased from the small basin size, the rocky and steep terrain of the Ozark Plateau

and the high volume of traffic that uses the low water crossing.

"On average the Greenwood Road low water crossing floods more than eight times a year. So far this year, Webster County has conducted three water rescues at this crossing," said Bill Sexton, Webster County emergency manager. The signs were provided by the National Weather Service Hydrology Services Division. The Webster County Road and Bridge department conducted the installation.



Left: A car is stranded while trying to cross the flooded low water crossing in Webster county.

Right: A flood safety sign is installed. Turn Around Don't Drown!

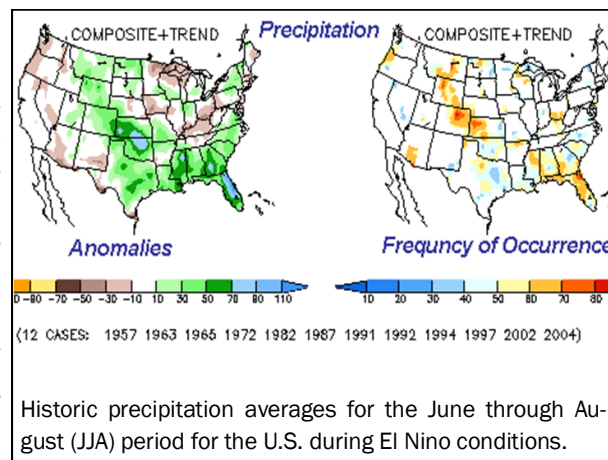
SUMMER OF 2009: WHAT TO EXPECT

By Gene Hatch

The beginning of the summer of 2009 will be a period of change. There is a strong possibility that El Nino will develop as the southern Pacific Ocean has been warming since the beginning of the year. In addition other climate circulations will keep the U.S. in an active weather pattern for the start of summer. Current indications are that this will lead to a prolonged wet period during the month of June.

The Climate Prediction Center (CPC) has forecast Equal Chances of normal

conditions for the Ozarks through the summer. This would fit well with a normal El Nino pattern that generally provides little change from normal conditions for the Ozarks during the summer months. However, when some of the other atmospheric circulations currently in progress are in place, changes in the normal pattern can occur. These changes will come in the form of better chances for precipitation throughout the summer months of June, July, and August.





SUMMER WEATHER SAFETY WEEK (CONT.)

Cont. from page 1... The reported number of injuries is likely far lower than the actual total number because many people do not seek help or doctors do not record it as a lightning injury. People struck by lightning suffer from a variety of long-term, debilitating symptoms, including memory loss, attention deficits, sleep disorders, numbness, dizziness, stiffness in joints, irritability, fatigue, weakness, muscle spasms, depression, and an inability to sit for long.

If you see someone hit by lightning, call for help immediately. Check to see if they are breathing and start CPR if necessary.



Summer Heat Safety:

Heat alone is bad, but conditions dramatically become worse when combined with high humidity. The NWS utilizes the heat index to inform people of dangerous conditions created by the combination of heat and humidity.

As the heat index climbs above 100, heat cramps or heat exhaustion is possible with prolonged outdoor exposure. These conditions become likely as the heat index climbs above 105. For your protection:

- * Drink plenty of water or non-alcoholic fluids
- * Spend time in air conditioned places
- * Slow down and try to stay out of the sun

For additional information on summer weather safety, please visit:
http://www.crh.noaa.gov/sgf/?n=summer_safety

**Summer Weather
Safety Week
June 22-28**

DERECHO!!! (CONT.)

Cont. from page 1... significant wind damage it had seen in several years. Thousands upon thousands of trees were uprooted or snapped. A 1000+ foot tower was snapped off just above ground level. Fair Grove schools received substantial structural damage, along with hundreds of other homes region wide.

In addition to the winds, 20 tornadoes developed along the line of storms as it passed through. These included 1 EF-3 and 5 EF-2 tornadoes. Most of these tornadoes touched down along and east of highway 160 in Missouri. One interesting aspect is that as the line of thunderstorms moved to the east, the tornadoes tended to move northeast, or even north. The tornadic activity damaged or destroyed numerous houses, many barns and outbuildings, threw vehicles, caused substantial tree damage, and unfortunately caused one fatality. May 8, 2009 will be a day not soon forgotten by those who endured the powerful storms.

ODDS OF BECOMING A LIGHTNING VICTIM

| | |
|--|-------------|
| U.S. 2000 Census (as of 2008) | 300,000,000 |
| Odds of being struck by lightning in a given year (reported deaths +injuries) | 1/700,000 |
| Odds of being struck in your lifetime (est 80 years) | 1/5000 |
| Odds you will be affected by someone being struck (ten people affected for every one struck) | 1/500 |

NWS SPRINGFIELD SUMMER PRODUCTS

Heat Advisory: Issued when the Heat Index (HI) is forecast to reach 105 degrees or greater, or a maximum temperature of 100 degrees or greater.

Excessive Heat Warning: HI of 105 degrees is forecast to occur over 4 consecutive days with a minimum 24 hour HI in the middle 70s. Warnings are also issued for a HI forecast to reach 110 degrees or greater.

Severe Thunderstorm Warning: Issued for thunderstorms that are producing, or forecast to produce hail one inch in diameter or larger, or winds of 58 mph or greater.

Flash Flood Warning: A flash flood warning is issued when heavy rainfall and quick response runoff causes a rapid rise in water levels, leading to flooding of areas that are not normally under water.

Hazardous Weather Outlook: This product is issued daily at 6 AM and 1 PM to highlight the potential of any hazardous weather forecast to occur over the next 7 days.

Area Forecast Discussion: This product is issued daily at 3 AM and 3 PM for an in depth analysis of the 7 day forecast.

Keep this page for your
Weather Reference!



HAZCOLLECT REGISTRATION OPEN IN MISSOURI

By: Steve Runnels

HazCollect, the NWS's All-Hazards Emergency Message Collection System, is a comprehensive national solution for the centralized collection and efficient distribution of Non-Weather Emergency Messages (NWEMs). NWEMs created by government officials with public warning authority are distributed through the NWS dissemination infrastructure, including All Hazard NOAA Weather Radio, to the nation's Emergency Alert System (EAS). Registration and training for county emergency management directors is now available at <http://www.weather.gov/os/hazcollect/>. Following required training,

emergency managers will be able to use HazCollect operationally this summer.

Emergency Managers and other warning authorities may learn more about the HazCollect system by contacting Warning Coordination Meteorologist Steve Runnels, or by visiting the HazCollect web site listed above. Please be certain to view the "For Government", "Training" and "Resources" sections near the bottom of the page.

Before registering for HazCollect, emergency management partners must have a Collaborative Operating Group (COG). If you have used DMIS previously, you likely have a COG. To learn more about the DMIS Program and register to use DMIS (by clicking on DMIS Tools) and DM-OPEN, visit the DMIS web site at <http://www.disasterhelp.gov/disastermanagement/>.



100 YEAR OBSERVER AWARD PRESENTED IN NEOSHO

By Larry Dooley

The weather station at Neosho, Missouri is one of the oldest in the entire state. The station was established January 1, 1878, twelve years before the Organic Act of 1890 formally started the Weather Bureau. H.D. Dean was the first observer when the station opened, and duties were eventually passed to William F. Page of the U.S. Fisheries office. Eventually, the entire office became the official observer on October 1, 1909

Since this date, the staff of the U.S. Fisheries office in Neosho has served as the official weather observer, and recorded approximately 36,500 observations. In addition, the equipment has been located at the same basic location during the entire time. Records indicate

the equipment was moved 200 feet south in October of 1971, the only recorded move during the entire record period. The official weather



Meteorologist-In-Charge, William Davis, presents a 100 year award to observer David Hendrix

data accumulated over the years at Neosho are especially valuable because there are no breaks in service, and no major changes in location.

Due to the exceptionally long history of this station, it was selected for the United States Historical Climatology Network (HCN). HCN stations are a subset of the U.S. Cooperative Observer Network operated by the National Weather Service. The approximately 1200 HCN stations were originally selected according to factors such as record longevity, percentage of missing data, spatial coverage, and the number of station changes that may affect data homogeneity. HCN data sets have been developed at the National Climatic

Data Center in collaboration with the Dept. of Energy's Carbon Dioxide Information Analysis Center.

TECHNOLOGY CORNER: WEB BRIEFINGS

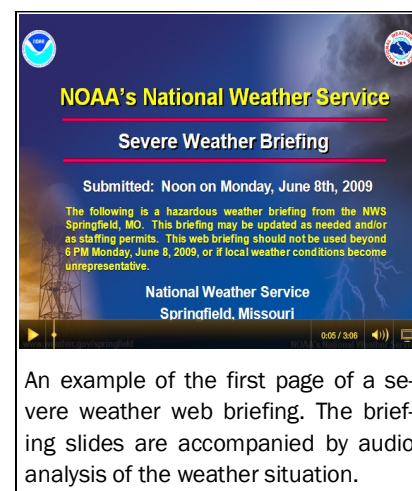
By Brian Barjenbruch

The National Weather Service in Springfield has initiated a new service for its customers across southwest Missouri and extreme southeast Kansas. On-line weather briefings are now being developed to increase awareness prior to high impact weather events. When potential arises for high impact weather across the forecast area, users can find the most recent web briefing by clicking on the web briefing headline at the top of

the [NWS Springfield home page](http://www.weather.gov/sfgf). This headline links to an online video developed periodically by the forecasters on duty.

These briefings consist of an overview of the weather conditions and potential hazards expected in the near future, and provides a way of displaying multiple important data sources in one location. This service is free and open to the

public. It is important to note that there are disclaimers with the video web briefings. For instance, the information is perishable, and does have an expiration time. The briefings are also updated as staffing permits. In rapidly changing weather situations, it may not be feasible to keep the briefing information current, and referring to active NWS products will provide the most up-to-date information possible.



An example of the first page of a severe weather web briefing. The briefing slides are accompanied by audio analysis of the weather situation.

JUNIOR OBSERVER PAGE

Word Find!

Search for these weather words:



Drought



Heat



Humidity



Sun



Rain



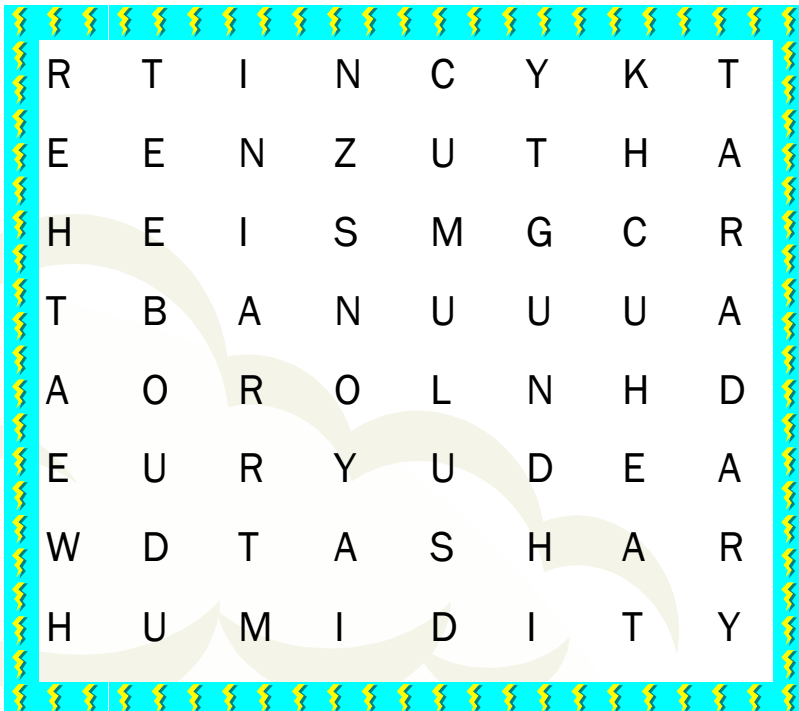
Cumulus



Radar



Weather



Tornado In A Bottle!

What you will need:

- 2— clear empty 2 liter bottles
- 1— 1 inch washer with a 1/4 to 3/4 inch hole in the center
- Duct Tape
- Water
- Food coloring or glitter



Steps:

1. Fill one of the bottles about 2/3 full of water. Add a few drops of food coloring or some glitter to the water.
2. Place the washer on top of the mouth of the filled bottle.
3. Place the empty bottle upside down on the washer, basically connecting the bottle mouths.
4. Duct tape the two bottles together where the bottle mouths connect. Use plenty of tape and make sure there are no leaks.
5. To create the tornado, flip the bottles so that the full one is running into the empty one. Swirl the top bottle slightly by tilting it in a circular fashion. A tornado vortex develops in the water, and continues until the top bottle is completely empty!



Did You Know???



The hottest temperature recorded on earth occurred in El Azizia, Libya on Sept. 13, 1922. It got to 136 degrees Fahrenheit!



The driest place on earth is the Atacama desert in Chile. Some parts of the desert have never recorded rainfall!



The highest temperature ever recorded in Missouri was 118 degrees Fahrenheit. This was measured at Clinton, Lamar, Warsaw and Union on different dates.



High humidity values of 90% or greater can make a 90 degree day feel like it is 120 degrees or warmer!